



NONGAME AND ENDANGERED WILDLIFE PROGRAM

ANNUAL REPORT
SEPTEMBER 2001 – AUGUST 2002

DIVISION OF FISH AND WILDLIFE
INDIANA DEPARTMENT OF NATURAL RESOURCES



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Annual report design by Alisha Schiffli



MESSAGE FROM THE SUPERVISOR

Dear Wildlife Enthusiast:

I cannot imagine a more exciting time to be working with rare and imperiled wildlife. For almost twenty years, Indiana's Nongame and Endangered Wildlife Program (NEWP) has been extremely fortunate to receive the loyal support of many Hoosiers. NEWP's income, all from citizen donations, has averaged \$366,316 per year. We are very grateful to all of the program's supporters and take pride in our roll in this unique conservation partnership. Thank you.

This year we have seen the first fruits of the two new federal aid programs that support work on nongame and endangered wildlife. Now through the Wildlife Conservation and Reinvestment Program (WCRP) and the State Wildlife Grant Program, we are able to secure federal matching funds of 50 to 75 percent. In other words, for every dollar of donated money we spend, the federal government will reimburse the Nongame Fund 50 to 75 cents. Through these two programs NEWP is eligible for more than 2.2 million dollars in federal funds.

We have been on a steep learning curve regarding federal aid procedures. But, the hard work

is paying off. Federal dollars are coming in and new federal aid-eligible programs and activities are being planned.

One of our most exciting new projects is the construction of a boardwalk and viewing deck system at the Pisgah Marsh Nongame Area (Kosciusko County). Pisgah Marsh will become a spectacular destination for the young and old alike who want to watch, listen to or commune with nature.

Next year will also see the release of osprey around the state. Young osprey will be released to encourage more of these aerial fishermen to call Indiana home.

NEWP must expand to take advantage of the new funding opportunities. More new programs are on the drawing board. We also have several obligations and challenges to meet. There is a lot of work to do, but the future looks brighter than it has in years. Indiana's nongame and endangered species continue to need your help.

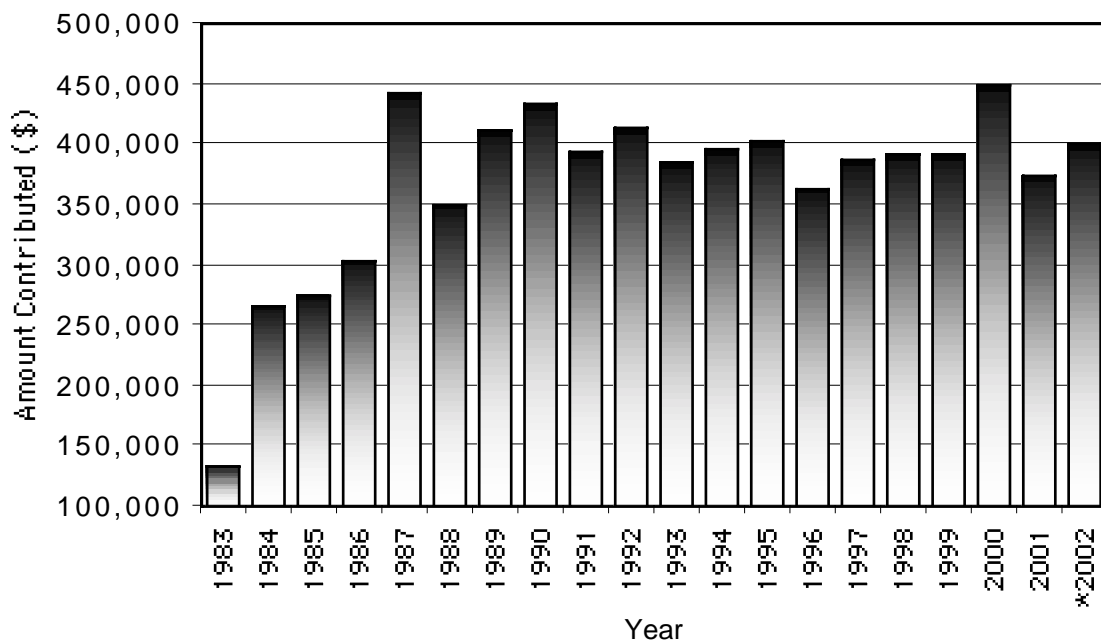
We want you to be a part of all of these exciting new changes, so please stay engaged and stay tuned.

Sincerely yours,



THE NONGAME AND ENDANGERED WILDLIFE PROGRAM (NEWP)

Yearly Contributions



*January 1 to September 30, 2002

Indiana's NEWP began in 1982 with the passing of legislation that initiated the nongame income tax checkoff on the Indiana State Income Tax form. The checkoff gives Indiana residents the opportunity to donate all or a portion of their tax refund to help support the projects of NEWP.

The main goal of NEWP is to protect and manage more than 550 species of nongame and endangered animals in the state. These species comprise 85 percent of all the wildlife in the state. Approximately 85 of the 550 species are state endangered while another 49 are listed as special concern.

NEWP utilizes five different

strategies to accomplish its goal.

Research and surveys – NEWP biologists conduct surveys to determine where species are located in the state and their population status. This information, combined with information about the needs of each species, is important for creating management plans that benefit these animals.

Habitat management – Habitat can be improved to provide more feeding, nesting and other habitat resources for species.

Public education – Publications are available for the public about many of our endangered species. Press conferences are held for newsworthy events and the

media is contacted when items of interest develop.

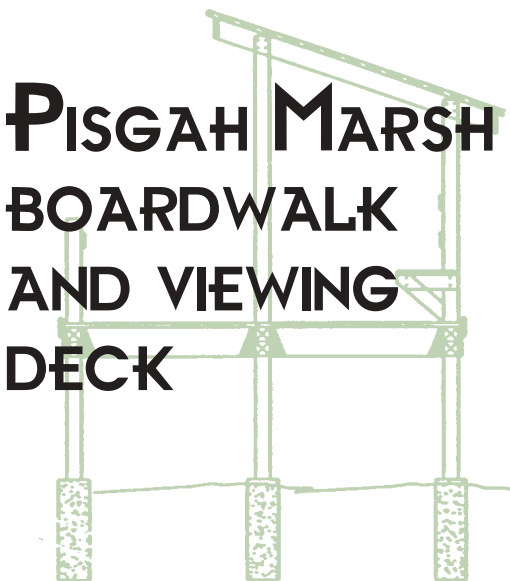
Restoration projects – Species are restored that no longer occur in Indiana or occur in very low numbers. Indiana has had three endangered species reintroduction projects (bald eagles, peregrine falcons and river otters).

Land acquisition – NEWP can purchase properties that serve as habitat for nongame animals.

Donations are thus the key to making these projects possible. NEWP staff thanks all donors for their continued support.



PISGAH MARSH BOARDWALK AND VIEWING DECK



Photos by: Alisha Schiffli

Nestled in the midst of Pisgah Marsh lies an esker, the future home of the Pisgah Marsh Boardwalk and Golden Eagle Viewing Deck. An esker is a long narrow ridge of sand, gravel and boulders deposited by a stream flowing beneath a glacier.

One of our most exciting new projects is the construction of a one-third-mile long boardwalk and viewing deck system at the Pisgah Marsh Nongame Area in Kosciusko County. This property contains a number of sensitive species and habitats. The deck system will make this area more accessible to individuals with physical limitations. Public access to the property will be restricted to the boardwalk system to protect the sensitive area.

Pisgah Marsh is home to the state-endangered Blanding's turtle and massassagua rattlesnake. Numerous species including waterfowl, sandhill cranes, beavers and rails inhabit the area. It is a terrific destination for everyone to watch or listen to nature.

The deck system will provide increased visibility to the prime features of the site without habitat degradation. Areas of the

deck are elevated to allow animals (deer, snakes, turtles, birds) to pass under. Construction on the project is expected to take place winter 2002 or spring 2003.

Not just your everyday Fish & Wildlife area

This project holds major significance for the Division of Fish and Wildlife as it is the first of its kind for our state.

The deck system allows for visitors to step aside on small deck extensions to obtain a better view of the marsh. Interpretive signs will be added to enhance the educational experience for visitors or highlight interesting features of the marsh.

Upon reaching the end of the boardwalk, visitors will be able to view Pisgah Lake, the Marsh and an extensive beaver dam system. The Golden Eagle deck will facilitate school groups to pause for a lesson or visitors to sit and enjoy the wildlife.

Funding the project

The Pisgah Marsh Boardwalk and Golden Eagle Viewing Deck project is being funded primarily from the Nongame and Endangered Wildlife Program and the Federal Wildlife Conservation and Restoration Program.

Additional funds have been obtained through the Indiana Power and Light (IPALCO), Golden Eagle Grant (\$10,000)





and the Eleanor D. Frenzel Charitable Trust to the Indiana Natural Resources Foundation Nongame Account (\$59,500).

Golden Eagle Grant cuts costs

NEWP staff has worked hard to find additional funding resources for the project and was recently notified as a recipient of Indiana Power and Light Company's (IPALCO) Golden Eagle Grant. The \$10,000 grant is awarded to "projects that protect, preserve, enhance and restore Indiana's environment."

NEWP is looking forward to all of the new and exciting projects with Pisgah Marsh and hope that you will be on the lookout for them too.

Education

Educational materials for use in the classroom and at the marsh will be developed in conjunction with the deck and interpretive signs. The materials will cover such topics as geology, biology, ecology and conservation. The materials will provide teachers with educational fact sheets, activities and handouts for use before, during and after a visit to the site. These materials will be developed to support Indiana's

Academic Standards for Science.

An educational trunk full of on-site activities will be made available for checkout when a visit has been scheduled. Students will have the opportunity to perform hands-on scientific activities. NEWP is striving to assist teachers in educating about Indiana's nongame and endangered wildlife.

Indiana college art students

Developing a creative, yet effective educational packet for the marsh is a task we are not taking lightly. As aforementioned, NEWP will meet as many of the Indiana Academic Standards that we can. It takes more than just good information and a strong foundation to develop effective and fun materials for students.

Using photos, diagrams and artwork help to enhance the learning process. To obtain artwork for usage in the educational materials, NEWP will sponsor an art contest for Indiana college students enrolled in at least one art class. Students can win up to \$3,000 in scholarship money. Their artwork will be publicly



displayed and published in *Outdoor Indiana*.

We encourage art and non-art students alike to "Take your art outside," and look closely at what Indiana has to offer. The scholarship contest is expected to take place spring 2003.

LAKE STURGEON STUDIES IN THE EAST FORK WHITE RIVER



Nongame biologist, Brant Fisher holds a lake sturgeon.

Lake sturgeon populations have been studied in the East Fork White River basin for the past seven years. To date, over 80 different lake sturgeon have been captured, ranging in size from 3 to 97 pounds and 2 feet 3 inches to 6 feet 7 inches in total length. Over the past couple of field seasons, several small fish (under ten pounds) have been collected. These lake sturgeon are probably from spawns that have occurred over the past five to ten years.

This is the first sign of recent reproduction that has been documented from the East Fork White River population. During the first two years of the study all lake sturgeon were captured from the same location; during the past few field seasons lake sturgeon have been captured at further downstream locations. Future efforts will attempt to determine if lake sturgeon are spawning in the East Fork White River, to locate these areas and to determine the genetic uniqueness of the population.

STATEWIDE FRESHWATER MUSSEL SURVEY

The Nongame and Endangered Wildlife Program has funded freshwater mussel surveys for most of Indiana's major drainages since 1990. These surveys have provided valuable information on the current and historical freshwater mussel distribution of Indiana. However, many streams of Indiana have remained unsurveyed; no information is available on their current freshwater mussel communities. A statewide survey of these previously unsurveyed streams was initiated in 2001; nearly 150 sites have been sampled to date.



A previously unknown reproducing population of round hickorynut (*Obovaria subrotunda*) a state species of special concern, was located in the West Fork White River drainage. Large, reproducing populations of ellipse, (*Venustaconcha ellipsiformis*) also a state species of special concern, were located at several sites in the Kankakee and Lake Michigan drainages. Future surveys will hopefully continue to provide important information

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for many of state endangered and special concern freshwater mussel species.

EASTERN SAND DARTER SURVEY

The eastern sand darter (*Ammocrypta pellucida*) is currently a species of special concern in Indiana. Historically, it occurred in the Maumee, Tippecanoe, West Fork White, East Fork White, Wabash and Whitewater drainages of Indiana. During a statewide fish survey in the 1940s, the eastern sand darter was collected from 34 locations across the state. Since that time, sporadic collections of the eastern sand darter have continued, although many have speculated that its distribution and abundance is declining. The darter's decline has been attributed to the destruction of its habitat. Eastern sand darters prefer clean, sandy runs of medium to large streams.

A systematic, statewide survey for the eastern sand darter was initiated in 2001. With the survey nearing its completion, eastern sand darter distribution seems to be even more widespread than known historically. Populations previously unknown have been found in Richland Creek (Greene County), Clifty Creek (Bartholomew) and Sand Creek (Bartholomew/Jennings). Eastern sand darters have also been collected in several stream systems where they had not been

recorded for over a century: Big Raccoon Creek, Deer Creek, St. Mary's River and Maumee River. The special concern status of the eastern sand darter will be reviewed once the survey is completed.



A hellbender amongst the rocks of an Indiana stream.

HELLBENDER SURVEY OF THE BLUE RIVER DRAINAGE

The hellbender, a state endangered amphibian, has been studied in the Blue River since 1996. Sampling sites were established in 1998 throughout the length of the river and are being utilized to monitor long-term hellbender population levels.

Annual collections have ranged from 21 to 49 hellbenders, with an average of 30 individuals per year. Basic information of weight, length, sex and location of collection is recorded for all captured individuals and each is marked for future identification. Several nests have been located during sampling, however, juvenile hellbenders have still not been found.

NAAMP HOPPING IN RIGHT DIRECTION

Since joining the North American Amphibian Monitoring Program (NAAMP) in 1999, Indiana's amphibian monitoring program has come a long way. The Indiana amphibian monitoring program uses volunteers to monitor frog and toad populations throughout the state.

Volunteers collect data three times a year during primary breeding seasons. The data is then entered into a national database managed by the U.S. Geological Survey. The data is then utilized to monitor overall populations across the country.

The national NAAMP established a nationwide set of standards in 2001. One year later, we are working to transition the Indiana program to meet all national guidelines. To ensure a stable future for Indiana's NAAMP, those familiar with the program will notice that some changes have been made. The most noticeable change is that all volunteers will be required to participate in a training session. New guidelines and changes in the program will be covered. Training session information will be made

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POPULATION DYNAMICS OF THE ALLEGHENY WOODRAT

The four-year study to obtain demographic information (e.g., sex and age structure, mortality) for the endangered Allegheny woodrat at two Indiana localities concluded in June 2002.

Since July 1998, nongame personnel conducted 36 monthly live trapping sessions at the Tobacco Landing and Shelterhouse #2 sites on the limestone cliffs bordering the Ohio River in Harrison County. A total of 67 woodrats (41 males, 24 females, 2 unknown) was captured 339 times in 1,691 trap-nights at Tobacco Landing. Only 36 woodrats (14 males, 22 females) were captured 189 times in 1,701 trap nights at Shelterhouse #2.

Populations fluctuated seasonally with the number of woodrats livetrapped in each two-night session ranging from 0 to 18 individuals (average = 8.7). A sharp decline, however, was documented at Shelterhouse #2. Up to 16 animals were livetrapped here as recent as April 2000, but only an adult male remained after May 2001 and no woodrats were livetrapped during the last two sessions in 2002. In contrast, the population at Tobacco Landing appears more robust. One resident female reached five years of age, and juveniles were captured most months in which surveys were conducted.



2002 STATUS OF THE ALLEGHENY WOODRAT IN INDIANA

Since 1991, Allegheny woodrats have been found at 15 sites (12 bluffs, 3 caves) along the Ohio River in Harrison and Crawford counties in southern Indiana.

These sites, last visited in 1996, are periodically surveyed to obtain baseline information on the status, distribution and relative abundance of Indiana's remnant woodrat population. Through August 2002, ten sites have been surveyed, and 52 woodrats (19 males, 31 females, 2 unknown) have been captured 86 times in 789 trap nights at seven sites. Only three of the occupied sites, however, have yielded more than ten individuals.

Surveys by nongame personnel since 1991 suggest the Allegheny woodrat has been extirpated from seven sites that were occupied just 20 years ago,

and the species appears most prevalent on Harrison-Crawford State Forest, Bull's Point Bluff and the Rabbit Hash Ridge complex. The current status survey is expected to conclude in October 2002.

Above: A woodrat stands atop a trap in Harrison-Crawford State Forest.

Below: Biologist, Cassie Conrad takes a look at a woodrat before weighing it.



RIVER OTTER RESTORATION PROGRAM

The Indiana River Otter Restoration Program was created with a goal of restoring otter populations in six watersheds in the state. From 1995 to 1999, 303 otters (184 males, 119 females) were released at 12 sites in northern and southern Indiana. To date, 52 (38 males, 14 females) of these animals (17 percent) are known to have died. Incidental trapping (total of 24) and road-kills (total of 17) have accounted for 79 percent of the known mortalities.

Field surveys, observations and information obtained from recovered individuals are used to monitor the status, distribution and range expansion of river otters in Indiana. Sightings, however, depend upon collection efforts and public sentiment, and thus, may be less reliable as otters become established and less of a novelty near release sites.

Standardized bridge/stream surveys were initiated during the 2001 – 2002 winter to obtain unbiased information regarding Indiana's otter population. Seventeen counties were sampled, but conclusive evidence of otters was detected on only three routes (Jennings, Miami and Wabash counties), largely due to the lack of ice and snow cover that prevailed last winter. Portions of at least 36 Indiana counties are believed to be occupied by river otters.



Unconfirmed sightings or isolated mortalities have been reported from 28 additional counties. Lastly, the total number of otters and percentage of unmarked animals recovered annually continues to increase, which supports the premise that river otters are becoming established throughout the state.

INDIANA BOBCAT REPORT DATABASE

Bobcats have been listed as a state endangered species since 1970, but evidence indicates that Indiana's bobcat population has increased markedly in the last ten years.

Excluding individuals captured or sighted as part of the telemetry study, there have been 51 confirmed reports of bobcats from 24 Indiana counties since 1970. Forty-one reports (80 percent) have occurred in the last seven years. Most are in the southwest and southcentral portions of Indiana with fewer reports distributed throughout the west central, north central and northeastern regions of the

state. Leading counties include Posey (9), Lawrence (5), Warrick (5), Greene (3), Martin (3), Monroe (3) and Pike (3). Recent confirmed reports include road-kills in Dubois, Greene, Posey, Ripley and Washington counties; accidental captures in Pike and Posey counties; and sightings in Perry and Posey counties.

POPULATION STUDY OF BOBCATS IN INDIANA

From November 2001 through April 2002, 13 bobcats (10 males, 3 females) were captured ten times in 2,859 trap-nights in the fourth field season of a multi-year study to investigate resident bobcat populations in southcentral Indiana. Four (3 males, 1 female) were previously-radioed adults and outfitted with new transmitters. Nine new cats (7 males, 2 females) were captured, six of which appeared to be subadults based on body size and reproductive status. Each radioed cat was generally located three times weekly through August 2002 to obtain information on survival, home range and movement patterns.

Since the project began in 1998, 21 bobcats (13 males, 8 females) have been captured 52 times in 9,726 trap-nights during four winter trapping sessions. Nineteen cats (12 males, 7 females) have been radioed and

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monitored for an average of 14 months (range: 2.5 months to 3.3 years). Five radioed bobcats have been killed during the study. Collisions with vehicles have accounted for most of the known mortalities.

While most radioed adults occupy habitats near their capture sites, several subadult cats exhibited interesting dispersal-related movements. A 2-year-old male first captured as a kitten in December 1999 was tracked through Illinois during October 2001 and was later found road-killed on Interstate 64 about 15 miles east of St. Louis, Mo. He had traveled nearly 180 linear miles from his natal area in northwest Lawrence County. Fourteen months after his capture on NSWC Crane, another young male was struck by a vehicle outside Mt. Airy Forest in downtown Cincinnati,



Ohio, about 125 linear miles from his capture site. To date, dispersal distances for seven other subadults (4 males, 3 females) have been more

moderate, averaging about 19 miles (range: 1 to 36 miles).

Spatial relationships of bobcats monitored to date and sightings of non-radioed cats indicate other animals exist in the original study area of northwest Lawrence, southeastern Greene and northern Martin counties. Livetrapping efforts to capture these cats, as well as radioed inhabitants, will begin in December 2002.

MANAGEMENT OF INDIANA BAT WINTER HIBERNACULA

Nongame biologists use a variety of strategies to manage important Indiana bat winter hibernacula and assess the efficacy of various protection measures. "Indiana Bat Hibernating Colony" warning signs, which define the seasonal closure period from September 1 to April 30, are posted at 11 caves in southern Indiana. Remote electronic alarm systems, first deployed in 1996, continue to be effective deterrents to unauthorized visitations in three monitored hibernacula.

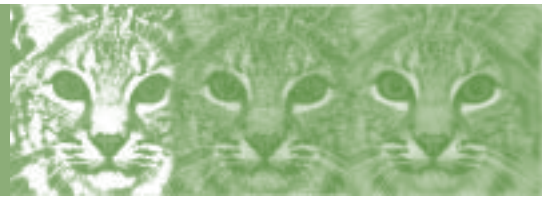
The 2001 – 2002 winter was the fourth consecutive hibernating season in which no visitations were noted in Coon Cave. No visitations were detected in Ray's Cave for the second consecutive winter while

inconclusive results were obtained from the units in Grotto Cave. Three visits were detected by spelunkers in Saltpeter Cave (Crawford County), only the third winter in which this hibernaculum has been monitored.



Above: A bat gate at Wyandotte Cave and a bat hibernaculum.

Left: A young bobcat peers over a tree.



A work plan for the restoration of ospreys in Indiana during 2003 has been finalized. Sites selected for releases are Patoka Lake, Minnehaha Fish and Wildlife Area, Tri-County Fish and Wildlife Area and Jasper-Pulaski Fish and Wildlife Area. Eight 6-week-old chicks, obtained from nests in the Chesapeake Bay area, are to be released at each site.

Two recently active nest sites (Brookville Reservoir and Potato Creek State Park) were again successful this year. A banded adult at Potato Creek (St. Joseph

County) was identified as having been released in northwestern Ohio during 1997. Two new nests were discovered during 2002; one at Patoka Lake was successful, while another at Hovey Lake Fish and Wildlife Area was destroyed by high winds.

Although osprey populations have been slowly growing in the Midwest, nests are widely scattered and restorations can greatly enhance local and regional populations.

THE RETURN OF THE OSPREY





Annual (since 1986) monitoring and management of least terns continues at Gibson Lake, where the only colony of this bird is known to nest in Indiana. Interior least terns typically nest on sand and gravel bars of larger river systems, but alteration of river flows from locks and dams have greatly reduced suitable habitat. Terns nest on gravel dikes and ash disposal areas at Cinergy's Gibson Station power plant adjacent to the Wabash River in southwestern Indiana.

Management consists of restricting access to minimize disturbance and controlling vegetation. Tern decoys, simulating tern colonies, are used to entice nesting by least terns and efforts are made to thwart mammalian predators. A record number (110) of adult least terns was present this year and 58 nests were discovered. Early nests concentrated along the center dike mostly failed (9 chicks thought to have fledged) due to predation, but a later shift

to an ash disposal area resulted in fledging of an additional 18 young. Dummy nests with Avitrol-treated (as a taste aversion agent) eggs were used to condition American crows not to prey on tern eggs. Treated eggs were eaten in a number of cases, but a Trail-master camera system failed to photograph suspected predators.

As part of a Habitat Conservation Plan between Cinergy Corp. and the U.S. Fish and Wildlife Service and in conjunction with the North American Waterfowl Management Plan and other partners, shallow water wetlands were constructed adjacent to Gibson Lake last fall. Two tern nesting islands should be completed by next summer. This area has already attracted summering king rails, black-necked stilts (first state nesting record) and Wilson's phalaropes (first nesting in Indiana since mid-century) this year.

BALD EAGLE MANAGEMENT

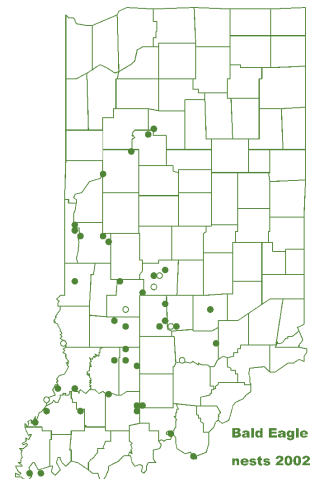
Indiana's nesting eagle population registered a large net increase of ten active pairs and production during the 2002 season, which is very near the historical average. Overall, 44 nest structures were monitored. A record 38 became active. Eleven pairs laid eggs for the first time but five territories active in recent years were vacant.

The breeding range expanded



north to Cass County and east to Jackson and Harrison counties. Production from 26 successful nests resulted in 45 eaglets reaching flight stage, surpassing last year's record of 40 eaglets. Summer storms resulted in damage or destruction of two nests resulting in the deaths of eaglets. Single eaglets were raised at 11 nests, twins at 11 nests and triplets at four nests.

On the Midwinter Eagle Survey in January 2002, the 204 bald eagles (and 3 golden eagles) was below last year's record high count of 280 bald eagles, but was still the second highest count ever and very respectable given the mild winter conditions. Most (69 percent) eagles were found along rivers and larger streams and 65 percent were adults.





PEREGRINE FALCON MANAGEMENT

With the addition of a new nesting pair on the southwestern side of Indianapolis, a record ten pairs of peregrine falcons nested in Indiana during 2002. Peregrines were located at five industrial sites (steel mills, power plants, highway bridge) along Lake Michigan, a power plant in Jasper County (30 miles south of Lake Michigan), and four inland urban areas (Indianapolis, Fort Wayne, Kokomo).

One pair again switched nest sites from a nest box at a steel mill to a smoke stack box about one mile away. A recently fledged male found injured in Madison led to the discovery of a pair nesting under a Kentucky

bridge over the Ohio River. In addition, a territorial pair was present at a nest box in South Bend where falcons were released in 1993. All but two nesting adults were identified and turnover occurred with females in downtown Indianapolis and at a bridge site in East Chicago. Nine of ten nesting attempts were successful and a record 27 chicks fledged with all but three chicks banded.

Four instances of post-fledging mortality were noted and reports were received of ten falcons with Indiana origins present in other states. A new nest box was erected at a smokestack at the AEP Tanners Creek power plant in Lawrenceburg.

Peregrine Falcon Nesting in Indiana

	Nesting Attempts	Successful Nests	Young Fledged
1989	1	1	3
1990	2	2	3
1991	2	2	3
1992	2	2	6
1993	2	2	6
1994	2	2	8
1995	3	3	8
1996	7	6	16
1997	7	6	15
1998	8	7	15
1999	8	7	24
2000	8	8	23
2001	9	9	20
2002	10	9	27

NONGAME BIRD CONSERVATION INITIATIVES

Involvement continued in various planning initiatives including Partners in Flight (Neotropical migrant landbirds), the U.S. Shorebird Conservation Plan, the North American Waterbird Conservation Plan and the North American Bird Conservation Initiative.

Related activities included participation in the Lake Michigan Monitoring Coordination Council, a Species Viability Evaluation exercise for the Hoosier National Forest and significant input into a large wetland reserve project in

Greene County.

An Integrated Bird Planning meeting was attended in Henderson, Ky., which discussed birds and habitat opportunities in the Central Hardwood Bird Conservation Region that includes southern Indiana. In early September 2002, Indiana hosted a similar meeting with biologists from Illinois and Ohio that focused on the Eastern Tallgrass Prairie.

The publication of the American Bird Conservancy's national list of Important Bird Areas included

four sites in Indiana: Brown County Hills region, Jasper-Pulaski Fish and Wildlife Area, Big Oaks National Wildlife Refuge and reclaimed minelands of southwestern Indiana. State co-coordinator for the federal Breeding Bird Survey, John Castrale, said that most of the 62 survey routes in Indiana were assigned and successfully completed during 2002.

SANDHILL AND WHOOPING CRANE MANAGEMENT

During the coordinated fall census in late October, 7,743 cranes were counted at Jasper-Pulaski along with 171 at Pigeon River Fish and Wildlife Area. These were certainly underestimates because wet fields allowed many cranes to roost away from the marshes traditionally used for night roosting.

An unprecedented number of sandhills wintered at Jasper-Pulaski; about 12,000 were counted on January 16, 2002 while normal winter numbers are about 1,000. The peak fall population of staging sandhill cranes at Jasper-Pulaski Fish and Wildlife Area was 21,454 cranes tallied on November 21, 2001.

Whooping cranes were lead by ultralight aircraft from Necedah National Wildlife Refuge in central Wisconsin to a wintering site at Chassahowitzka National Wildlife Refuge on the Gulf Coast of Florida. Flights began on October 17, 2001 and were completed by December 3, 2001. Of the eight birds that left Wisconsin, one died from a collision and another was transported by truck most of the way. Three stops were made in Indiana from November 3 to November 7, 2001. Five birds that survived the winter in Florida began their spring migration on April 9, 2002.

One became separated from the group and all birds made a stop in Indiana. On April 15, 2001, the group of four left Tennessee and spent the night in Johnson County, Ind. The next day they continued north, circling over the Indiana Dunes for two hours before heading into Illinois. The single bird traveled from Kentucky on April 16, 2002 and spent two nights near Brookston, Ind. before leaving for Wisconsin on April 18, 2002. The whooping cranes arrived at Necedah on April 19, 2002 (four birds) and May 3, 2002 (the single).

ENDANGERED SPECIES LISTING UPDATE

Recent surveys revealed the western harvest mouse (*Reithrodontomys megalotis*) has greatly expanded its range in northwest Indiana and now occupies portions of 18 counties. Western harvest mice were first reported in Indiana in 1969 at Willow Slough Fish and Wildlife Area in Newton County. The species invades early seral stage habitats where it can rapidly build large populations. As a result of the dramatic range expansion, the western harvest mouse was removed from the state's list of special concern species in 2002.

Based upon analysis of several long-term data sets (i.e.,

hibernacula surveys, summer mist-netting data, reports of bat colonies in buildings and submissions to Indiana rabies laboratory), six species of bats were added to the state's list of special concern in 2002.

Affected species include the little brown bat (*Myotis lucifugus*), northern long-eared bat (*Myotis septentrionalis*), silver-haired bat (*Lasionycteris noctivagans*), eastern pipistrelle (*Pipistrellus subflavus*), red bat (*Lasiurus borealis*) and hoary bat (*Lasiurus cinereus*).

Whooping cranes were also added to the Indiana list of endangered species. Because of increasing populations, the sandhill crane was removed from the state endangered list.

PUBLICATIONS

Johnson, S.A. 2002. Reassessment of the Allegheny woodrat (*Neotoma magister*) in Indiana. Proceedings of the Indiana Academy of Science 111:56-66.

NAAMP CONT.

available on the NAAMP website.

Training occurs in early and late winter to adequately prepare volunteers for data collection. More information is available on the Indiana NEWP website at www.wildlife.IN.gov

NEWP GAINS NONGAME EDUCATION SPECIALIST



From left: Katie Smith, Alisha Schiffli, Scott Johnson, John Castrale and Brant Fisher

The Nongame Program now has five full-time staff members. The program welcomed Alisha Schiffli to its staff in March 2002. Schiffli is the nongame education specialist and will perform public relations, education and promotional functions for the program.

“I am thrilled to have joined the program at such an exciting time and look forward to all of the new opportunities available for us,” she said. Schiffli is a native Hoosier and is expected to complete her Master of Arts degree from Ball State University in public relations in 2003.

CASTRALE WINS DNR ‘BIOLOGIST OF THE YEAR’ AWARD



Indiana’s bird biologist, John Castrale, was recently honored with the Biologist of the Year award by the DNR’s Division of Fish and Wildlife director.

Castrale, a 20-year veteran of the DNR, was recognized with the Raymond E. (Peck) Wilson Award of Excellence. He received the award for his

dedicated work managing and restoring Indiana’s eagle and peregrine falcon populations.

“Indiana is fortunate to have many dedicated biologists and natural resource managers. John Castrale is this year’s outstanding example,” said division director, Glen Salmon. “John has done a superb job in managing our wildlife resources.”

Castrale has been heavily involved with Indiana’s bald eagle and peregrine falcon reintroduction programs. He has also completed the Breeding Bird Atlas which Castrale considers his labor of love. The

Atlas takes a systematic and scientific look at breeding birds in Indiana.

Castrale was born and grew up in Evansville, Ind., attended Indiana University, and graduated from Purdue University with a B.S. degree in agriculture. He did his graduate studies at West Virginia University, and finished his Ph.D. degree in zoology from Brigham Young University.

Castrale lives in Mitchell, Ind. with his wife and two daughters. He is an avid outdoorsman who considers himself one lucky guy to be able to do a job he loves.



JOHN CASTRALE

ORNITHOLOGIST

LENGTH OF TIME WITH DNR
Twenty years

EDUCATION
B.S. in Wildlife Science from Purdue University
Ph.D. in Wildlife and Range Resources from
Brigham Young University

FAVORITE NONGAME ANIMAL
Anything with feathers

FAVORITE PART OF JOB
Being out in the field; doing bird surveys by helicopter;
banding birds; interacting with bird watchers and
nature enthusiasts

MEET THE NONGAME STAFF



BRANT FISHER

FISH & MUSSELS BIOLOGIST

LENGTH OF TIME WITH DNR
Seven years

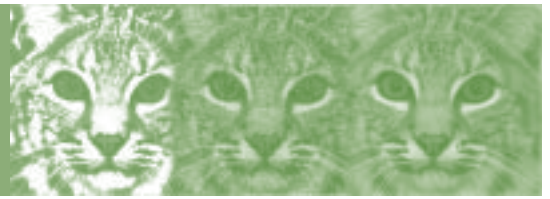
EDUCATION
B.S. in Biology from Grove City College, Pa.
M.S. in Aquatic Sciences from Purdue University

FAVORITE NONGAME ANIMAL
Lake sturgeon

FAVORITE PART OF JOB
Sampling small fish from large rivers



Artwork contributed by:
Lake Sturgeon, Christian James, Age 11
Broad-winged Hawk, Joseph James, Age 14
Indiana Bat, Sabrina Krause, Age 4 1/2
Barn Owl, Katelin Lang, Age 10



SCOTT JOHNSON

MAMMALOLOGIST

LENGTH OF TIME WITH DNR
Sixteen years

EDUCATION
B.S. in Zoology from Ohio University
M.S. in Wildlife Management from University of Wisconsin-Stevens Point

FAVORITE NONGAME ANIMAL
River otters

FAVORITE PART OF JOB
Diversity of projects



KATIE SMITH

NONGAME SUPERVISOR &
ENDANGERED SPECIES
COORDINATOR

LENGTH OF TIME WITH DNR
Thirteen years

EDUCATION
B.S. from Northwestern Louisiana State University
M.S. and Ph.D. in Zoology from Southern Illinois
University-Carbondale

FAVORITE NONGAME ANIMAL
Hellbenders

FAVORITE PART OF JOB
New projects



ALISHA SCHIFFLI

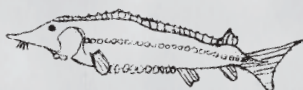
EDUCATION SPECIALIST
& NAAMP COORDINATOR

LENGTH OF TIME WITH DNR
Six months

EDUCATION
B.S. in Speech Communication from Southern
Illinois University-Carbondale
M.A. in Public Relations from Ball State
University

FAVORITE NONGAME ANIMAL
Bobcats and woodrats

FAVORITE PART OF JOB
Developing educational materials and
working with nongame staff



KEEPING TURTLES AS PETS



Ornate box turtle

It is illegal in the State of Indiana to sell native species of turtles, and their subspecies, regardless of whether they are captive-bred or wild-caught. Even if the turtle is not native to Indiana, the FDA prohibits the selling of turtles with a shell under four (4) inches in length in an effort to prevent contact with turtles carrying the *Salmonella* bacteria. The Centers for Disease Control and Prevention recommend that children, pregnant women and persons with compromised immune systems avoid contact with reptiles to prevent contact with the bacteria.

Most people do not realize that turtles require time and money for proper care, just like any other pet, such as a dog, cat, or bird. When healthy and properly cared for, some species can live up to 50 years, much past the interest of childhood. Pet turtles do not like to be held and are loners; therefore they can become boring pets for children. Once individuals have a pet turtle and no longer want to keep it, it should not be released into the wild because it is not likely

to survive. It will have to find its own food, deal with the elements and deal with predators. These once-captive turtles are also likely to transmit diseases to wild turtle populations.

Turtles are cold-blooded and need a source of heat. They also require ultraviolet light for proper growth and health. Without this special light, many health issues arise such as metabolic bone disease. Each species has different feeding requirements, with some being strictly carnivores or herbivores. Map turtles, for example, have restricted diets that must include snails, aquatic insects and crayfish. Some species of aquatic turtles, such as the red-eared slider, map turtle and soft-shell, grow up to 12 inches in length, requiring a large tank for swimming and basking. A filter is also necessary for water cleanliness. Land turtles need a large pen, with sufficient substrate, properly sized water bowl, a hide area as well as heat. Some require more humidity than others.

Many native, wild-caught turtles are still sold as pets, even though this practice is illegal in Indiana. The collection of wild turtles has caused many species to become endangered, especially when combined with habitat loss, water pollution and predators. Predators such as raccoons eat a large number of turtle eggs each year, and some species do not even breed until they are several years old, meaning that it can take many years for a population to become established. You can help protect Indiana's turtles by helping to preserve turtle habitat, especially wetlands, through local conservation organizations or the Nongame and Endangered Wildlife Program.

The Indiana Department of Natural Resources does not encourage the keeping of turtles as pets, but does allow it if the turtle is obtained legally with a hunting or fishing license. Endangered species can not be collected from the wild or be sold in Indiana.

Indiana's native turtles

Alligator snapping turtle (endangered)
Blanding's turtle (endangered)
Common snapping turtle
Eastern box turtle
Eastern mud turtle (endangered)
False map turtle
Hieroglyphic river cooter (endangered)
Map turtle
Midland painted turtle
Musk turtle
Ornate box turtle (endangered)
Ouachita map turtle
Smooth softshell turtle
Spiny softshell turtle
Spotted turtle (endangered)
Western painted turtle



UPCOMING NEWP EVENTS FOR 2003

EXAMINING UNUSUAL HOMES **BASELINE BURROWING CRAYFISH STUDY**

Increasing evidence indicates that crayfish burrows are critical to the survival of several endangered species in Indiana. Currently, even basic distribution and life history information is scant for burrowing crayfish. We do know that Indiana is home for several burrowing crayfish species. This study will allow us to learn more about the status, distribution and life history of burrowing crayfish. The data will also be used to assess possible threats to the crayfish and the endangered species that utilize their burrows.

LAYING A GOOD FOUNDATION **HABITAT REPORT/DATABASE PROJECT**

The turn of the new millennium has given us a unique and historic opportunity to pull together, collate and annotate current information about the status of Indiana's habitat. This information, part of the essential foundation of professional management for all wildlife, is finally within our reach due to new federal support.

We will develop a comprehensive report/database on many aspects of Indiana's forest, grassland, wetlands, aquatic, agricultural, urban, barren-lands and subterranean habitats. The report/database will serve as a snapshot of Indiana's habitat at the beginning of this new millennium.

PROTECTING THE PRIME PROPERTY **RARE HABITAT MANAGEMENT**

Rare animals are found in rare habitats. Preservation of these habitats requires that they be managed to prevent exotic plant species invasion. Several private organizations and the Indiana Division of Nature Preserves specialize in identifying rare ecological communities and protecting them from development. Managing these patches of prime habitat is necessary if these areas are to retain their rare qualities and provide homes for endangered wildlife.

For the first time ever, we are in a position to help properly manage the unique savannas, barrens, glades, fens, bogs and prairies upon which many imperiled species rely.

Indiana's wildlife and Nongame Program would like to thank
everyone for their continued support.





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